

expansion caused by the gases being generated in the interior of the housing 600. The connection points 610 can include a crimped connection, a welded connection, an adhesive connection, or a combination thereof to form a hermetic seal.

[0045] FIG. 7 is simplified cross sections of an electronic device 700 in which the battery system of FIG. 3 can be incorporated according to some embodiments of the present invention to provide power to electronic components of electronic device 700. Electronic device 700 can include battery 710 and components 730 contained in housing 740. As non-limiting examples, electronic device 700 can be or include a smartphone, a tablet computer, a wireless mouse, a wearable electronic device such as a watch, a laptop or other electronic device. Components 730 can include electronic and structure components for use with electronic device 700. For example, components 730 can include memory, a processor, a board with electrical contacts, or supports. Housing 740 can include one or more pieces that can be joined to protect the battery 710 and components 730. Housing 740 can reduce or prevent moisture or particles from reaching the components 730 or battery 710. In some embodiments, housing 740 can include a display for displaying data received from components 730. In some embodiments, the display and/or the housing can include a surface for receiving touch inputs from a user. Battery 710 can include some or all of the components, characteristics, or aspects of the battery 300 described above. Battery 710 can include rolled electrodes 720 that can be electrically coupled to provide electrical energy to components 730.

[0046] FIGS. 8A and 8B are simplified cross sections of a portion of an electronic device 800 illustrating the differences between pouch battery 100 and battery 710. FIG. 8A is a simplified cross section of a portion of an electronic device 800A including the previously known pouch battery 100 of FIG. 1. Pouch battery 100 includes electrodes 120 to provide electrical energy to components 730. Pouch battery 100 is offset from the components 730 by gap 832A. Gap 832A prevents the pouch battery 100 from contacting components 730, which can cause the components 730 to corrode. Gap 832A results in empty space in electronic device 800A and limits the size of the pouch battery 100. Limiting the size of the pouch battery 100 also limits the amount of electrical energy that can be used by the components 730 in the electronic device 800A.

[0047] FIG. 8B is a simplified cross section of a portion of an electronic device 800B including battery 710 of FIG. 7. Battery 710 includes rolled electrodes 720 to provide electrical energy to components 730. In contrast to pouch battery 100, battery 710 does not need to be separated from components 730. Battery 710 can contact components 730 without damaging components 730 or causing components 730 to corrode. Gap 832B is included as a reference to illustrate the space that is saved by using battery 710 with electronic device 800B. The space saved by using battery 710 in electronic device 800B can be used to increase the size of rolled electrodes 720. Increasing the size of rolled electrodes 720 increases the amount of electrical energy that can be used by components 730 in electronic device 800B.

[0048] The various aspects, embodiments, implementations or features of the described embodiments can be used separately or in any combination. Various aspects of the described embodiments can be implemented by software, hardware or a combination of hardware and software. The

described embodiments can also be embodied as computer readable code on a computer readable medium for controlling manufacturing operations or as computer readable code on a computer readable medium for controlling a manufacturing line. The computer readable medium is any data storage device that can store data which can thereafter be read by a computer system. Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, HDDs, DVDs, magnetic tape, and optical data storage devices. The computer readable medium can also be distributed over network-coupled computer systems so that the computer readable code is stored and executed in a distributed fashion.

[0049] The foregoing description, for purposes of explanation, used specific nomenclature to provide a thorough understanding of the described embodiments. However, it will be apparent to one skilled in the art that the specific details are not required in order to practice the described embodiments. Thus, the foregoing descriptions of specific embodiments are presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the described embodiments to the precise forms disclosed. It will be apparent to one of ordinary skill in the art that many modifications and variations are possible in view of the above teachings.

[0050] It is well understood that the use of personally identifiable information should follow privacy policies and practices that are generally recognized as meeting or exceeding industry or governmental requirements for maintaining the privacy of users. In particular, personally identifiable information data should be managed and handled so as to minimize risks of unintentional or unauthorized access or use, and the nature of authorized use should be clearly indicated to users.

What is claimed is:

1. A battery system for use in an electronic device comprising:
 - an electrically conductive housing including a first portion having a flange around its periphery and a second portion that overlaps with the first portion and is hermetically sealed to the first portion at the flange, the first and second portions combining to define an interior cavity;
 - an electrode assembly disposed within the interior cavity and including an anode, a cathode, and a separator between the anode and cathode; and
 - a connection terminal electrically coupled to the electrode assembly through an opening in the housing.
2. The battery system of claim 1, wherein the housing and the electrode assembly are electrically coupled to a common ground.
3. The battery system of claim 1, the housing comprising:
 - a first area;
 - sidewalls extending from the first area and forming a cavity for receiving the electrode assembly, the sidewalls having curved edges opposite the first area; and
 - a second area generally parallel to the first area and connectable with the curved edges of the sidewalls to form a flanged edge.
4. The battery system of claim 1, wherein the connection terminal comprises a connection bar for coupling with the electrode assembly when the electrode assembly is disposed in the cavity.